

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions, and listings of the claims in the application:

1. (Currently Amended) A sample cell comprising:
a sample cell body having a first passage defined therethrough;
a sample cell core having a second passage defined therethrough, wherein in an unassembled configuration, the sample cell core is detached from the sample cell body, and in an assembled configuration, the sample cell core is secured ~~securable to~~ the sample cell body such that the first passage is in fluid communication with the second passage, and wherein the sample cell core includes at least one first optical aperture defined therein to allow light to pass through at least a portion of the second passage; and
a first window disposed over the first optical aperture.
2. (Original) The sample cell of claim 1, wherein the sample cell core further includes at least one second optical aperture defined therein, and wherein the second optical aperture is optically aligned with first optical aperture; and further comprising:
a second window dispose over the second optical aperture.
3. (Original) The sample cell of claim 1, wherein the second passage follows a “Z-shaped” configuration through the sample cell core.
4. (Original) The sample cell of claim 3, wherein a portion of the “Z-shaped” configuration is adjacent to the first window.
5. (Original) The sample cell of claim 1, further comprising at least one snap-in retainer ring positioned around the first window.

6. (Original) The sample cell of claim 1, wherein the first passage defined in the sample cell body includes a chamber adapted to receive the sample cell core, and wherein the sample cell core is mechanically retained within the chamber by the snap-in retainer ring.

7. (Original) The sample cell of claim 1, wherein the sample cell core is mechanically keyed to insure alignment of the first and second passages.

8. (Currently Amended) A gas monitoring system comprising:

(a) a radiation source which emits a plurality of wavelengths of infrared radiation absorbable by a selected gas;

(b) a radiation detector positioned to sense radiation of a plurality of wavelengths emitted from the radiation source, whereby the amount of infrared radiation from the radiation source that impinges upon the radiation detector is proportional to the content of the selected gas passed between the radiation source and radiation detector;

(c) a sample cell having at least one passage defined therethrough and configured as such to not substantially alter a flow profile of gas passing through the passage, and wherein the sample cell includes at least one first optical aperture defined therein to allow the plurality of wavelengths of infrared radiation from the radiation source to pass through at least a portion of the passage, wherein the sample cell includes:

(1) a sample cell body having a first passage defined therethrough, wherein the first passage includes a chamber; and

(2) a sample cell core having a second passage defined therethrough, wherein the sample cell core is adapted to be disposed in the chamber such that the first passage is in fluid communication with the second passage; and

(d) a first window disposed over the first optical aperture.

Claim 9. (Cancelled).

10. (Currently Amended) The gas monitoring system of claim 98, wherein the ~~first passage defined in the sample cell body includes a chamber adapted to receive the sample cell core, and wherein the sample cell core is mechanically retained within the chamber.~~

11. (Currently Amended) The gas monitoring system of claim 98, wherein the sample cell core is mechanically keyed to insure alignment of the first passage and the second passagespassage.

12. (Currently Amended) The gas monitoring system of claim 98, wherein the second passage follows a "Z-shaped" configuration through the sample cell core.

13. (Original) The gas monitoring system of claim 12, wherein a portion of the "Z-shaped" configuration is adjacent to the first window.

14. (Original) The gas monitoring system of claim 8, further comprising:
at least one second optical aperture defined in the sample cell, wherein the second optical aperture is optically aligned with first optical aperture; and
a second window disposed over the second optical aperture.

15. (Original) The gas monitoring system of claim 8, further comprising:
at least one snap-in retainer ring positioned around the first window.

16. (Currently Amended) A method of infrared gas measurement comprising:
drawing gas through a sample cell including a sample cell body having a first passage defined therethrough and a sample cell core having a second passage defined therethrough, wherein in an unassembled configuration, the sample cell core is detached from the sample cell body, and in an assembled configuration, the sample cell core is secured to the sample cell body such that the first passage is in fluid communication with the second passage;

emitting a plurality of wavelengths of infrared radiation from a radiation source through at least one first optical aperture defined in the sample cell core;

sensing of a plurality of wavelengths emitted from the radiation source by a radiation detector upon passing through at least a portion of the second passage; and

determining the content of the selected gas passed between the radiation source and radiation detector by the amount of infrared radiation from the radiation source that impinges upon the radiation detector.

Claims 17-20. (Cancelled).